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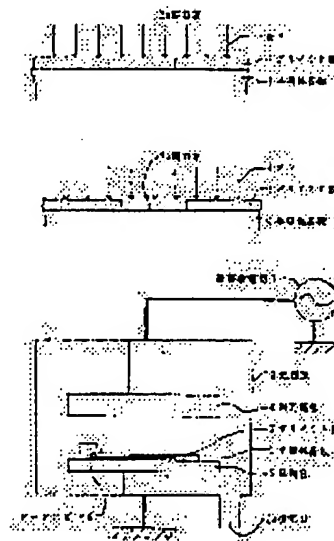
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(54) MANUFACTURE OF SEMICONDUCTOR DEVICE

(57)Abstract:

PURPOSE: To prevent trouble breaking a semiconductor element by changing a mask material in an ion implantation process into polyimide and discharging charges generated in polyimide during the ion implantation process by previously executing RF treatment.

CONSTITUTION: The surface of a semiconductor substrate 1 is coated with polyimide to form a polyimide film 2. The semiconductor substrate 1, on which the polyimide film 2 is formed, is placed onto a base plate 5 in a treating chamber 3, and the polyimide film 2 is treated by using an RF treater applying high-frequency voltage to a counter electrode 4 by a high-frequency power supply 7 and generating plasma. Ions are implanted to the surface of the semiconductor substrate 1 while ions are also implanted to the polyimide film 2, but charges generated in the polyimide film by ion implantation are passed through a layer being formed by RF treatment and having high carbon content, and discharged to the base plate 5 of the semiconductor substrate through a clamp pin 6 fixing the semiconductor substrate 1. Accordingly, the breakdown of the gate oxide film of the semiconductor substrate 1 by charges stored in the polyimide film 2 is prevented.



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